Conference on Diagnostic Assessment
Final Report

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In response to the growing need for alternative diagnostic assessments that can help diagnose instruction and training needs so that individuals can achieve basic levels of mastery, a conference was organized that brought together researchers, educators, and policy makers from diverse areas interested in new forms of assessment. The goal of the conference was to educate presenters and the audience on the strengths and limitations of diagnostic assessment.

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Conference on Diagnostic Assessment

In response to the growing need for alternative diagnostic assessments that can help diagnose instruction and training needs so that individuals can achieve basic levels of mastery, a conference was organized that brought together researchers, educators, and policy makers from diverse areas interested in new forms of assessment. The goal of the conference was to educate presenters and the audience on the strengths and limitations of diagnostic assessment. A group of 18 presentations were solicited and 17 invitations were accepted. The conference kicked-off on Wednesday evening, May 5 with a reception. On Thursday morning, following a catered breakfast, the conference opened at 8:30 and adjourned that evening at 5:45. An evening dessert reception hosted by American College Testing was well attended. The conference resumed at 8:30 on Friday morning and ended at 3:45 that afternoon. The conference was attended by 59 people including people from across the United States and outside the United States.

In addition to the conference participants, the ideas shared at the conference will reach a broader audience through an edited book of the conference proceedings. A contract for publication of the book has been signed with Lawrence Erlbaum Associates. The book now has 14 chapters and two chapters may be added. Publication of the book is expected in 1994. The following is a list of titles and authors now in the book.

Title: <u>Assessing design activity in complex CMOS circuit design</u>
Authors: Gautam Biswas
             Vanderbilt University

             Susan Goldman
             Vanderbilt University   –

Title: <u>Student modeling in the ACT programming tutor</u>
Authors: Albert T. Corbett
             Department of Psychology
             Carnegie-Mellon University

             John R. Anderson
             Department of Psychology
             Carnegie-Mellon University

             Alison T. O'Brien
             Department of Psychology
             Carnegie-Mellon University

Title: <u>Using clustering methods to explore the structure of diagnostic tests</u>

Author: James E. Corter
           Teachers College
           Columbia University

Title: <u>Unified cognitive/psychometric diagnostic assessment likelihood-based classification techniques</u>

Authors: Louis V. DiBello
           University of Illinois at Urbana

           William F. Stout
           University of Illinois at Urbana

           Louis A. Roussos
           University of Illinois at Urbana

Title: <u>A measurement model for a complex cognitive skill</u>

Authors: Karen L. Draney
           School of Education
           University of California-Berkeley

           Peter Pirolli
           School of Education
           University of California-Berkeley

           Mark Wilson   _
           Graduate School of Education
           University of California-Berkeley

Title: <u>Adapting cognitive methods to real world objectives: An application to job knowledge testing</u>

Authors: David DuBois &
           Personnel Decisions Research Institute

           Valerie L. Shalin
           State University of New York-Buffalo

Title: <u>Diagnostic assessment of troubleshooting skill in an intelligent tutoring system</u>

Authors: Drew H. Gitomer
Educational Testing Service

Linda S. Steinberg
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Robert J. Mislevy
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Title: <u>Similarity, structure and knowledge: A representational approach to assessment</u>

Authors: Peder J. Johnson
Department of Psychology
University of New Mexico

Timothy E. Goldsmith
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University of New Mexico

Kathleen W. Teague
Department of Psychology
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Title: ASPM2: <u>Progress toward the analysis of symbolic parameter models</u>

Authors: Thad A. Polk
Department of Psychology_
University of Pennsylvania

Kurt VanLehn
Learning Research & Development Center
University of Pittsburgh

Dirk Kalp
School of Computer Science
Carnegie-Mellon University

Title: <u>Some suggestions for alternative assessments</u>

Author: Sandra P. Marshall
Department of Psychology
San Diego State University

Title: A Bayesian approach to cognitive assessment

Authors: Joel Martin &
Learning Research and Development Center
University of Pittsburgh

Kurt VanLehn
Learning Research & Development Center
University of Pittsburgh

Title: Probability-based inference in cognitive diagnosis

Author: Robert J. Mislevy
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Title: A cognitive diagnosis method using latent trait models: Competency space approach and its relationship with the unified cognitive/psychometric diagnosis model

Author: Fumiko Samejima
Department of Psychology
The University of Tennessee-Knoxville

Title: Architecture of knowledge structures and cognitive diagnosis: A statistical pattern classification approach

Author: Kikumi Tatsuoka
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